

What is claimed is:

1. A method of carrying out a simulation with simulation data, comprising:

determining whether or not the simulation data includes boundary conditions set for a

5 boundary of a calculation area set for the simulation;

computing the influence of the boundary conditions on the inside of the calculation area

if the simulation data include the boundary conditions;

displaying the influence of the boundary conditions on the inside of the calculation area;

prompting to enter an instruction whether or not the boundary conditions are changed;

10 and

if an instruction to make no change in the boundary conditions is entered, carrying out
the simulation with the simulation data.

2. The method as claimed in claim 1, wherein displaying the influence of the

15 boundary conditions comprises:

if the simulation data includes the boundary conditions, generating virtual images
outside the calculation area according to the boundary conditions; and

displaying the virtual images, as well as real images included in the calculation area.

20 3. The method as claimed in claim 1, further comprising, after prompting to enter an
instruction:

if an instruction to make a change in the boundary conditions is entered, generating
virtual images outside the calculation area according to boundary conditions other
than the boundary conditions included in the simulation data;

25 displaying the virtual images, as well as real images included in the calculation area;

prompting to enter an instruction whether or not the boundary conditions used to generate the virtual images are adopted; and

if an instruction to adopt the boundary conditions used to generate the virtual images is entered, carrying out the simulation by employing the adopted boundary conditions.

4. The method as claimed in claim 3, further including:

computing and displaying the influence of other boundary conditions on the calculation area.

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5. The method as claimed in claim 1, further comprising, after prompting to enter an instruction:

if an instruction to make a change in the boundary conditions is entered, expanding the calculation area and providing data concerning the expanded calculation area.

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6. The method as claimed in claim 1, wherein:

the boundary conditions include one of fixed, mirror, periodic, transmission, and infinite boundary conditions.

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7. The method as claimed in claim 1, wherein:

the boundary of the calculation area is changeable.

8. The method as claimed in claim 1, wherein computing and displaying the influence of the boundary conditions includes:

25 computing and displaying information about the accuracy and speed of the simulation

to be carried out with the simulation data including the boundary conditions.

9. A computer program product for carrying out a simulation with simulation data, comprising:
 - 5 a determining module configured to determine whether or not the simulation data includes boundary conditions set for a boundary of a calculation area set for the simulation if the simulation data includes the boundary conditions;
 - a computing module configured to compute the influence of the boundary conditions on the inside of the calculation area if the simulation data include the boundary
 - 10 conditions;
 - a displaying module configured to display the influence of the boundary conditions on the inside of the calculation area;
 - a prompting module configured to prompt to enter an instruction whether or not the boundary conditions are changed; and
 - 15 a simulation module configured to carry out the simulation with the simulation data if an instruction to make no change in the boundary conditions is entered.
10. The program product as claimed in claim 9, wherein displaying module comprises: generating module configured to generate virtual images outside the calculation area
 - 20 according to the boundary conditions if the simulation data includes the boundary conditions; and
 - displaying module configured to the virtual images, as well as real images included in the calculation area.
- 25 11. The program product as claimed in claim 9, further comprising, after prompting

module:

a generating module configured to generate virtual images outside the calculation area according to boundary conditions other than the boundary conditions included in the simulation data if an instruction to make a change in the boundary conditions

5 is entered;;

a displaying module configured to display the virtual images, as well as real images included in the calculation area;

a prompting module configured to prompt to enter an instruction whether or not the boundary conditions used to generate the virtual images are adopted; and

10 a simulation module configured to carry out the simulation by employing the adopted boundary conditions if an instruction to adopt the boundary conditions used to generate the virtual images is entered.

12. The program product as claimed in claim 11, further comprising:

15 a computing and displaying module configured to compute and display the influence of other boundary conditions on the calculation area.

13. The computer product as claimed in claim 9, further comprising, after prompting module:

20 a expanding module configured to expand the calculation area and providing data concerning the expanded calculation area if an instruction to make a change in the boundary conditions is entered.

14. The program product as claimed in claim 9, wherein:

25 the boundary conditions include one of fixed, mirror, periodic, transmission, and infinite

boundary conditions.

15. The program product as claimed in claim 9, wherein:

the boundary of the calculation area is changeable.

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16. The method as claimed in claim 9, wherein displaying module includes:

displaying information about the accuracy and speed of the simulation to be carried out

with the simulation data including the boundary conditions.

- 10 17. A semiconductor device manufacturing method, comprising:
designing a semiconductor device;
outputting design data of the semiconductor device;
simulating the design data of the semiconductor device employing a simulation data in
connection with the semiconductor device, the simulating comprising:
15 determining whether or not the simulation data includes boundary conditions set for
a boundary of a calculation area set for the simulation;
computing the influence of the boundary conditions on the inside of the calculation
area if the simulation data includes the boundary conditions;
displaying the influence of the boundary conditions on the inside of the calculation
20 area;
prompting to enter an instruction whether or not the boundary conditions are
changed; and
if an instruction to make no change in the boundary conditions is entered, carrying
out the simulation with the simulation data; and
25 fabricating the semiconductor device according to the design data.